

Work Order ID 132235

Monday, May 04, 2015 1:19:24 PM

132235

Page 1

Item ID: D2199-23 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Strut
 Start Date: 5/4/2015 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 5/4/2015 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: MLS Date: MAY 04 2015 Cooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2199	F

100 NC BRAKE 0.00
100
 Brake NC Memo 0.01
 Brake NC Punch per Dwg. D2199 and Spec Control Dwg D2638
 Deburr

4X **DAS 28 9-89** MAY 26 2015

120 QC5- Inspect part completeness to step on W/O 0.00
120
 QC Memo 0.00
 Quality Control

4 **DAS 05 9-89** 15-05-27

130 White Gloss(Ref:4.3.5.2) per QSI005 4.3-Steel 0.00
130
 Powdercoat Memo 0.00
 Powder Coating START TIME: 10:15
 OVEN TEMPERATURE: 1400
 FINISH TIME: 10:45

4 15-5-28 **DAS 34 9-89**

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
Root Cause				FAULT CATEGORY																					
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OTHER : _____																									

1.32235

Page 2

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 5/4/2015 **Start Qty:** 4.00 ***4***

Cust Item ID:

Required Date: 5/4/2015 **Req'd Qty:** 4.00 ***1***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

[illegible]

150	Identify as per dwg & Stock Location: <u>St 382</u>	0.00
150		
Packaging	Memo	0.00
Packaging		

4

27
9-99
MAY 28 2015

160	QC21- Final Inspection - Work Order Release	0.00
160		
QC	Memo	0.00
Quality Control		

MW MAY 29 2015

MLJ MAY 29 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																							
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Picklist Print

Monday, May 04, 2015 1:19:27 PM

Page 1

Work Order ID: 132235

132235

Parent Item: D2199-23

D2199-23

Parent Item Name: Strut

Start Date: 5/4/2015

Required Date: 5/4/2015

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP: D02.06.10Rem polish & add finishNG/CC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304TR0.750W.049		Purchased	No				f	157.5380		10			
M304TR0 750W 049												DAS	MAY 26 2015
304 RD Tube .750 x .049W												28	
												9-89	
						<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>					
						GA002	157.538						
						M128084	4						
						M129363	3.5						
						M130292	3.51						
						M131717	146.528						
										10			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

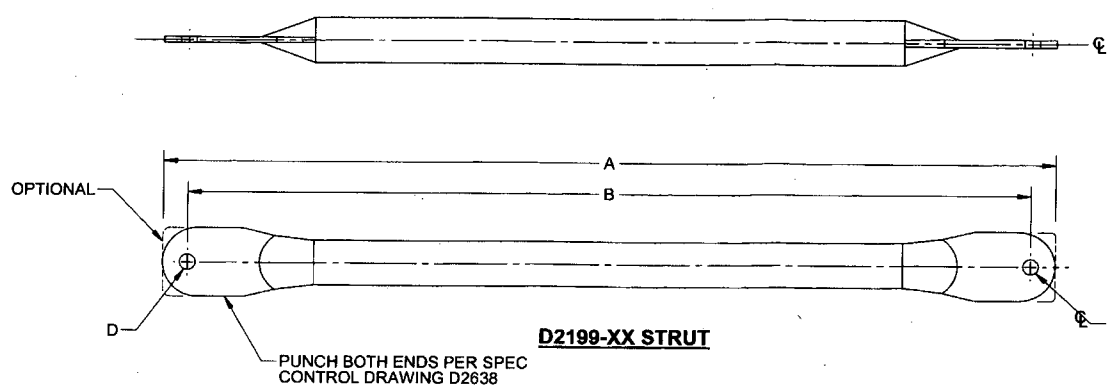
Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

[illegible]

Measured by:		Audited by:		Preliminary Approval:	
Date: MAY 26 2015		Date: 15 03 27		Date:	
Rev	Date	Change			
E	10.04.14	Added preliminary approval	Revised by	Approved	
			KJ		

10.04.15



PART NUMBER	A	B	C	D	WEIGHT (LBS)	FINISH
D2199-1	18.30	17.50	Ø0.257	Ø0.257	0.56	NOTE 2
D2199-3	5.80	5.00	Ø0.257	Ø0.257	0.17	NOTE 2
D2199-5	22.64	21.84	Ø0.257	Ø0.316	0.69	NOTE 2
D2199-7	14.74	13.94	Ø0.257	Ø0.257	0.45	NOTE 2
D2199-9	16.52	15.72	Ø0.257	Ø0.257	0.50	NOTE 2
D2199-11	23.60	22.80	Ø0.257	Ø0.316	0.72	NOTE 2
D2199-13	15.96	15.16	Ø0.257	Ø0.257	0.49	NOTE 2
D2199-15	17.57	16.77	Ø0.257	Ø0.257	0.54	NOTE 2
D2199-17	28.05	27.25	Ø0.257	Ø0.316	0.86	NOTE 2
D2199-19	18.90	18.10	Ø0.257	Ø0.257	0.58	NOTE 2
D2199-21	10.80	10.00	Ø0.257	Ø0.257	0.33	NOTE 2
D2199-23	26.18	25.38	Ø0.257	Ø0.316	0.81	NOTE 2
D2199-25	19.93	19.13	Ø0.257	Ø0.257	0.61	NOTE 2
D2199-27	27.34	26.54	Ø0.257	Ø0.316	0.84	NOTE 2
D2199-29	21.11	20.31	Ø0.257	Ø0.257	0.65	NOTE 2
D2199-31	15.55	14.75	Ø0.257	Ø0.257	0.45	NOTE 3

NOTES:

- MATERIAL: AISI 304/316 STAINLESS STEEL ROUND TUBING Ø0.750 X 0.049 WALL
PER ASTM A213 OR ASME SA213 OR ASTM A269
REF DART SPEC. M304TR0.750W0.049
- FINISH: POWDER COAT "WHITE" (4.3.5.2) PER DART QSI 005 4.3
- FINISH: POWDER COAT GREY SANDETEX (4.3.5.6) PER DART QSI 005 4.3
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- IDENTIFICATION: IDENTIFY WITH DART P/N "D2199-XX" AND B/N BXXXXXX
PER QSI 044, 6.5.
- WEIGHT: PER CHART
- MAKE PER TEMPLATE DT2199-XX WHERE XX IS THE RESPECTIVE DASH NUMBER.

RELEASED

2015 FEB 04

ECN 15-522 915-522

F	INCORPORATED E1, REFORMATTED AND REDRAWN. ADDED -31. ADDED GREY SANDETEX FINISH.	AJS	14.09.26
E	ADDED -23 AND -25 PER TSR A585M, ADDED TEMPLATE & SPEC CTRL. DWG REDRAWN IN CAD	KE	98.04.28
D	ADDED -21	N/A	N/A
C	ADDED -17 AND -19	N/A	N/A
B	ADDED -11, -13 AND -15	N/A	N/A
A	NEW ISSUE	JB	1993
REV.	DESCRIPTION	BY	DATE
DESIGN	JB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D2199	SHEET 1 OF 1
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	STRUT DETAILS	NTS
DATE	14.09.26	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

APPROVED